



ClimateMaster's
Tranquility 22 *Digital*

December 2011

TRANQUILITY® 22 DIGITAL



HVAC High Efficiency Residential Equipment

TRANQUILITY 22 DIGITAL

JOINS CLIMATEMASTER'S AWARD WINNING
FORCED AIR INDOOR PACKAGED UNIT LINE



Tranquility 27
2-stage

New



Tranquility 22
2-stage



Tranquility 20
1-stage


TRANQUILITY 22 DIGITAL

3 TOP Selling points

Compact size



2-stage comfort at / near standard @
Single stage price



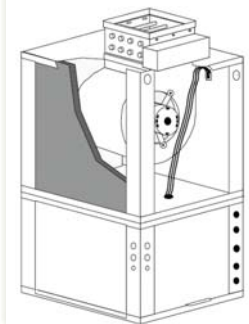
FAULT TEMP CONDITIONS		
LT1 LOW WATER TEMP		
COOL 1	11:11AM	12/25
LT1 TEMP	28.1	
LT2 TEMP	79.9	
HOT WATER EWT	121.5	
COMP DISCHARGE	157.7	
LEAVING AIR	75.1	
LEAVING WATER	73.3	
ENTERING WATER	78.5	
CONTROL VOLTAGE	26.4	
◀ PREVIOUS		

FAULT FLOW CONDITIONS		
LT1 LOW WATER TEMP		
COOL 1	11:11AM	12/25
ECM TARGET CFM	300	
ECM BLOWER RPM	350	
FLOW RATE GPM	6.5	
PUMP SPEED	60%	
VALVE POSITION	0%	
◀ PREVIOUS		

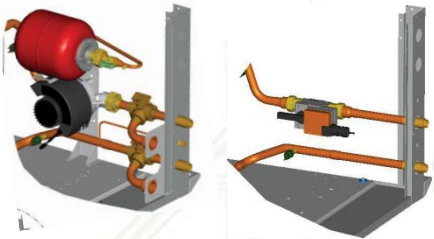
Plug & Play / Digital controls

TRANQUILITY[®] 22 DIGITAL BIG Changes – sales / competitive

- Up to 22 EER / 4.1 COP (qualifies for *Federal Tax Credit*)
- Capacities: 2, 2.5, 3, 3.5, 4, 5 ton
- Compact size, Bond silver finish, 1” filter MERV 8
- Copeland 2-stage compressor / Emerson ECM motor standard @ / near Single Stage price
- Plug & Play – internal variable speed water control
- Industry’s first true 4-wire, two-way communicating system
- No Downflow configuration
- No ClimaDry[®]
- External Auxiliary heat (vertical)



TRANQUILITY® 22 DIGITAL BIG Changes – install / service



1. Plug & Play: Internal VARIABLE SPEED Water-flow control options
2. DXM2 Communicating system – Configure, Monitor and Diagnose at Thermostat
3. Swing-out control box – access to components
4. 4-wires between thermostat and unit
5. External auxiliary heater
6. External condensate trap
7. High/Low refig. Pressure ports – easy access

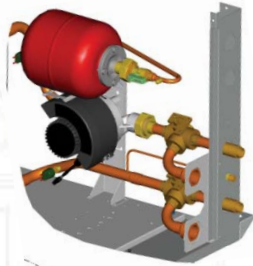


CONTROL STATUS PUMP OPERATION		
PUMP SPEED		60 %
PUMP WATTS		140
FLOW RATE GPM		7.4

AIRFLOW SELECTION		
HEAT STAGE 1		60.0
HEAT STAGE 2		75.0
AUXILIARY HEAT		85.0
EMERGENCY HEAT		85.0
COOL STAGE 1		52.5
COOL STAGE 2		70.0
COOL DEHUM 1		42.5
COOL DEHUM 2		55.0
CONTINUOUS FAN		35.0
HEAT OFF DELAY		60
COOL OFF DELAY		30



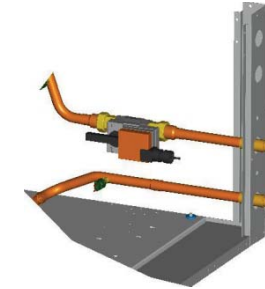
TRANQUILITY[®] 22 DIGITAL Plug and Play



Internal VS Flow Controller

- Var. speed Grundfos pump
- Controlled by DXM2 to Water ΔT
- w/ Expansion tank (145 psi)
- **Copper water coil only**
- New Flushing procedure – refer to IOM

OR



Internal Motorized Mod valve

- Open loop – **Cupro-Nickel water coil only** and open loop valve OR
- Closed loop (central pumping) – **copper water coil only** and closed loop valve
- Controlled by DXM2 to Water ΔT

Separate pressure ports built in

To bypass pump / mod. valve

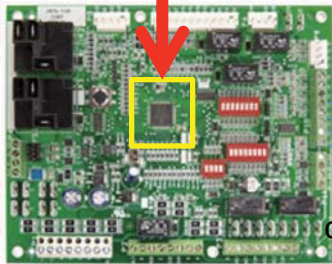
New gauge to measure Pressure Drop

Check water temp. at THERMOSTAT /
configuration tool

TRANQUILITY® 22 DIGITAL NEW DXM2 Comm. system



Microprocessor



4 wire

2-way
communication



Microprocessor is at the HEART of this system

Transfers packets of information instead of just 24 volt signals

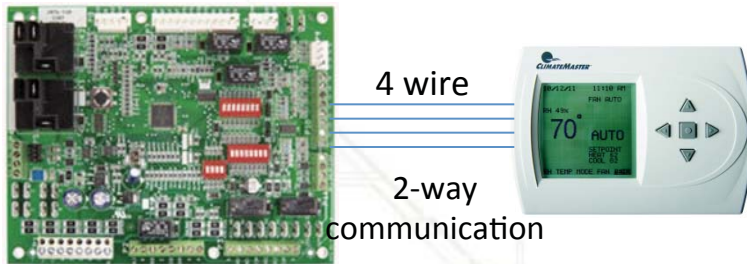
Allows for communication through 2 wires, instead of a wire for every signal

Allows for 2-way transfer of INFORMATION with fan motor, pumps, thermostat etc.

AIRFLOW SELECTION			
HEAT	STAGE	1	6.00
HEAT	STAGE	2	7.50
AUXILIARY	HEAT		8.50
EMERGENCY	HEAT		8.50
COOL	STAGE	1	5.25
COOL	STAGE	2	7.00
COOL	DEHUM	1	4.25
COOL	DEHUM	2	5.50
CONTINUOUS	FAN		3.50
HEAT	OFF	DELAY	60
COOL	OFF	DELAY	30
◀ PREVIOUS		NEXT ▶	

Allows for plain English display

TRANQUILITY® 22 DIGITAL DXM2 feature summary



Communicating programmable Thermostat (ATC32U01)



Configuration / Diagnostic tool (ACDU01)

MOST INTELLIGENT control in the Geothermal industry

Microprocessor enables 2-way communication

Configure, Monitor and Diagnose FROM THERMOSTAT

4-wire to thermostat

Need either CONFIGURATION / DIAGNOSTIC tool (ACDU01) or Communicating stat (ATC32U01) to configure / troubleshoot

Integrates ECM and HWG boards

Fewer Dip Switches to configure (not needed for most initial configuration)

TRANQUILITY® 22 DIGITAL NEW DXM2 system

Configure

AIRFLOW SELECTION			CFM
HEAT	STAGE 1		600
HEAT	STAGE 2		750
AUXILIARY HEAT			850
EMERGENCY HEAT			850
COOL	STAGE 1		525
COOL	STAGE 2		700
COOL DEHUM 1			425
COOL DEHUM 2			550
CONTINUOUS FAN			350
HEAT OFF DELAY			60
COOL OFF DELAY			30
◀ PREVIOUS			NEXT ▶

Monitor

SYSTEM STATUS	
LT1 TEMP	78.7
LT2 TEMP	78.0
COMP DISCHARGE	99.9
HOT WATER EWT	99.9
LEAVING AIR	99.9
LEAVING WATER	99.9
ENTERING WATER	99.9
ECM BLOWER RPM	999
ECM TARGET CFM	999
ECM BLWR STATIC	99.9
PUMP WATTS	999
FLOW RATE GPM	999
PUMP SPEED	999
◀ PREVIOUS	

Diagnose

FAULT STATUS	FAULT CODE E7
ACTIVE FAULT	OVER/UNDER VOLTAGE
OVER/UNDER VOLTAGE	
LAST 5 FAULTS	
NO FAULT	VOLTAGE TOO HIGH
NO FAULT	VOLTAGE TOO LOW
NO FAULT	
NO FAULT	
◀ PREVIOUS	SELECT
	◀ PREVIOUS

CONFIGURE:

CFM, ΔT

Unit info.

Water circuit option

MONITOR:

Entering / Leaving Water Temperature

GPM (w/ IFC)

Leaving Air Temperature

Compressor discharge temperature

Blower RPM

DIAGNOSE:

Fault code

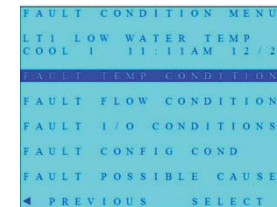
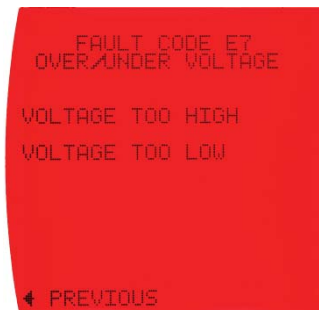
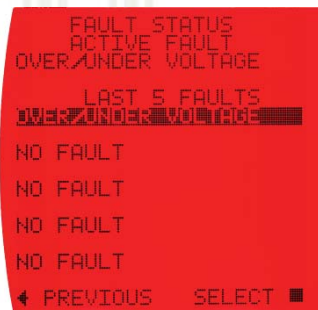
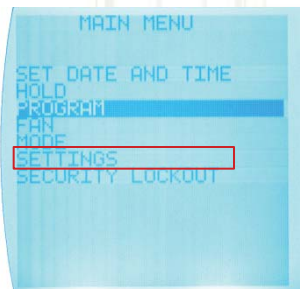
Fault History

Conditions AT TIME OF FAULT!

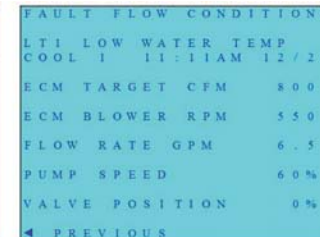
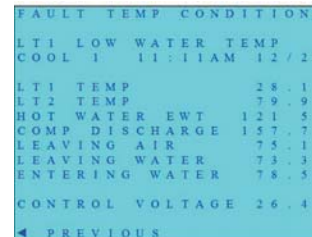
TROUBLESHOOTING

Homeowner can give simple information to Service Technician BEFORE arriving

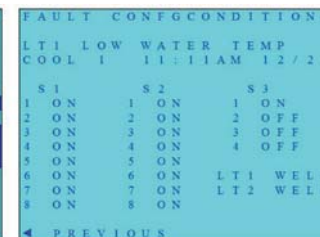
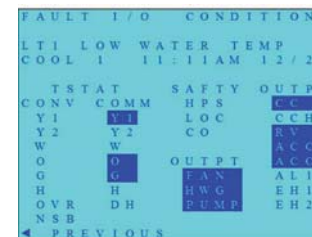
Technician can see what happened with the unit when it stopped working



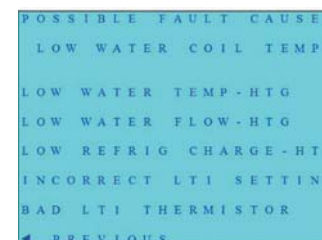
Fault condition menu



Temp and Flow conditions

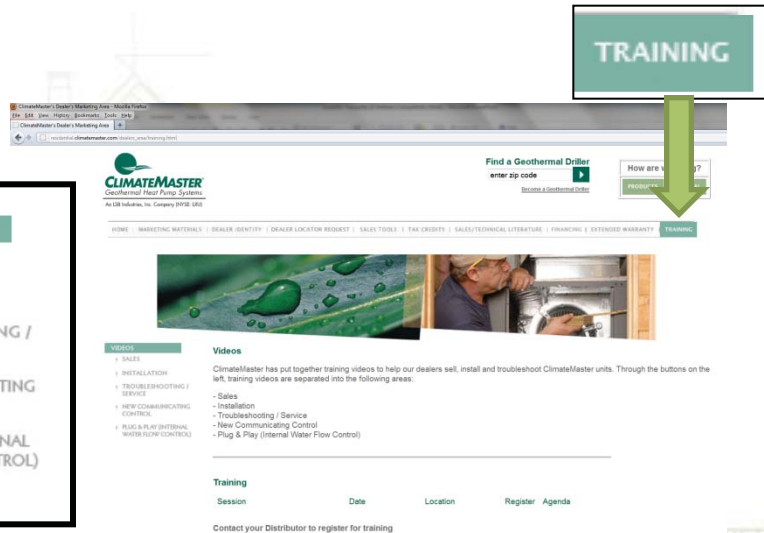


I/O and Configuration conditions



Possible causes

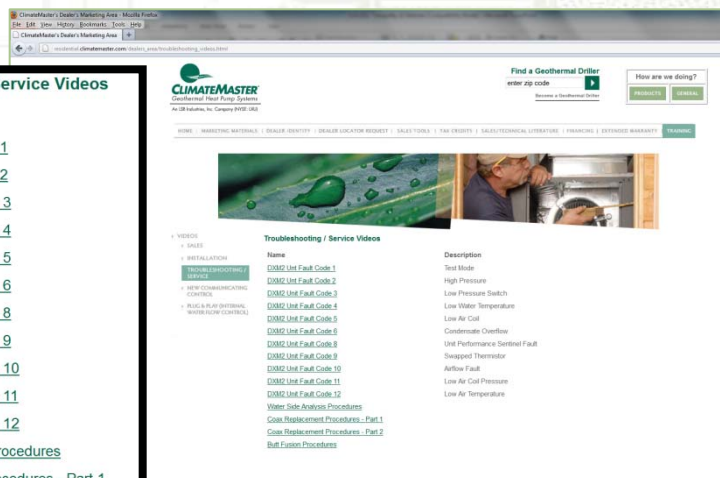
TRAINING - Videos



- Significantly enhanced videos at:

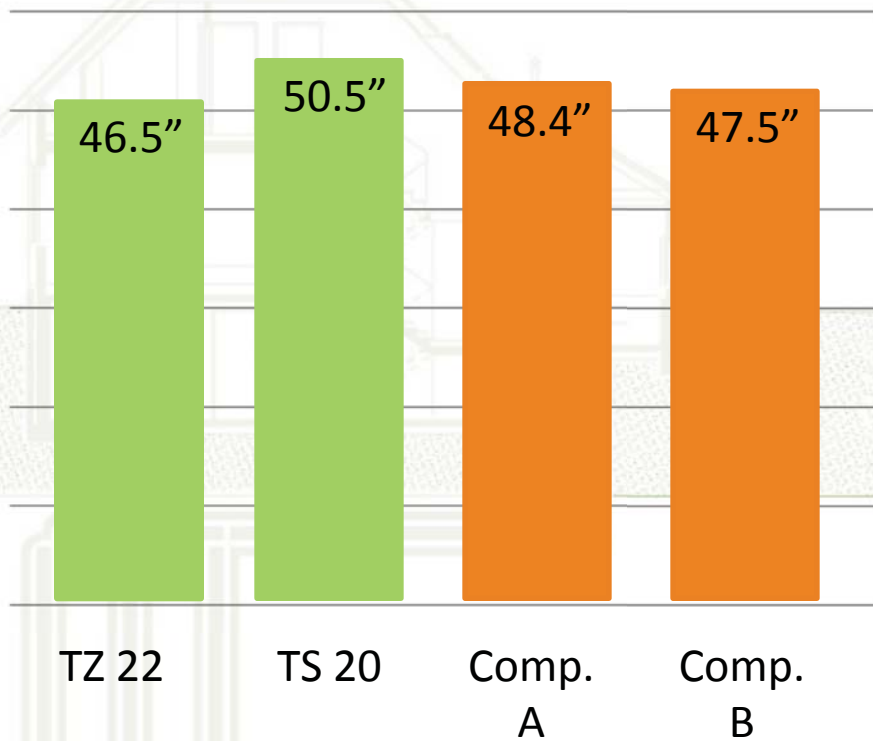
http://residential.climatemaster.com/dealers_area/training.html

- Sales, Installation, Troubleshooting sections
- Walk through fault codes
- Can reach YouTube videos only through link on website
- *More to come..*

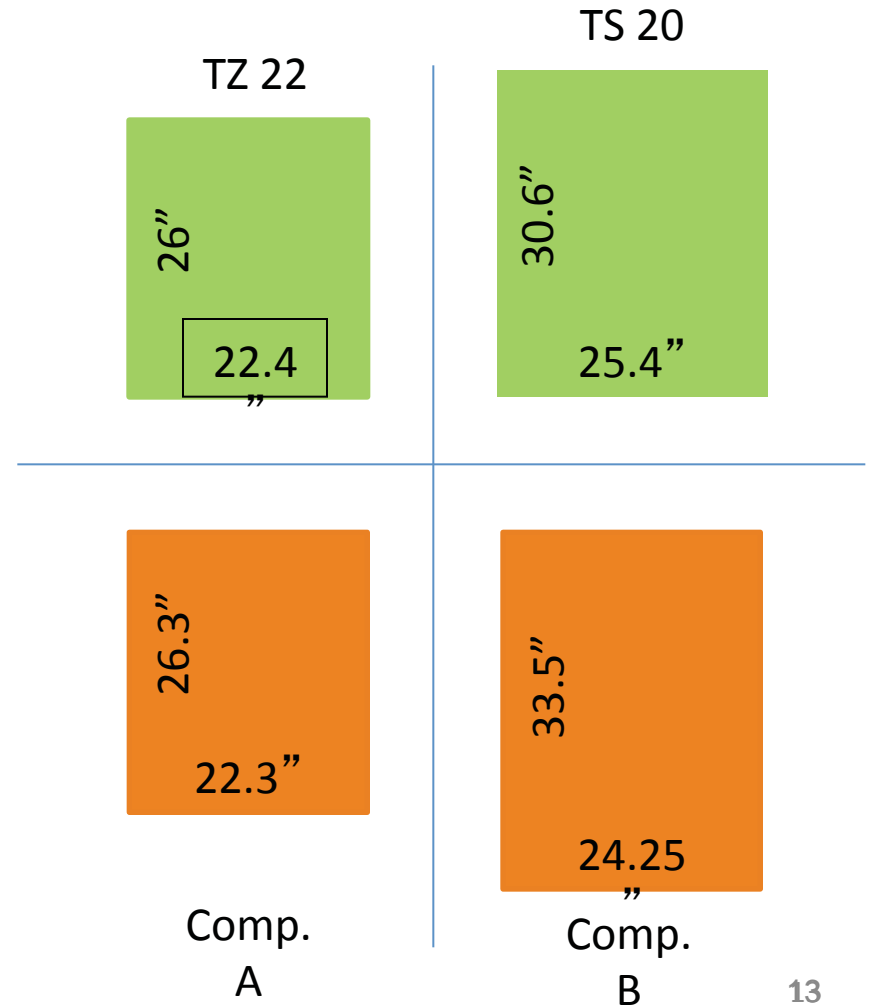


Competitive compare Size

Height



Base



Competitive compare Efficiency – comparable families

EER	ClimateMaster		Water Furnace	Bosch	Hydron Module
	Tranquility 22 - Two stage	Tranquility 20 - single stage	Legend - single stage	BP/CP - single stage	H series Single-Stage
K BTUH					
24	20.0	20.0	17.5	21.1	18.0
30	20.9	18.0	18.3	19.4	18.5
36	20.6	20.2	17.3	19.7	16.4
42					
48					
60					
2-stage comfort at Single stage price					
COP	Two stage	single stage	stage	single stage	Single-Stage
K BTUH					
24	3.8	3.8	3.8	4.0	3.7
30	3.9	3.9	3.8	4.3	3.7
36	4.0	4.2	3.5	4.1	3.4
42	3.8	4.0	3.7	4.1	3.6
48	4.1	3.8	3.6	3.7	3.5
60	3.9	3.8	3.6	4.3	3.5

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2-stage comfort at Single stage price



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LEAVING AIR	75.1		VALVE POSITION	0%	
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◀ PREVIOUS			◀ PREVIOUS		